IEEE 802.18
Radio Regulatory Technical Advisory Group
Homepage at http://www.ieee802.org/Regulatory/

October 9, 2002

To: Ms. Marlene H. Dortch, Esq.
Secretary
Federal Communications Commission
236 Massachusetts Ave., NE, Suite 110
Washington, DC 20002

Re: Notice of ex parte communications – ET Docket No. 02-98

Dear Ms. Dortch:

On October 9, 2002, I, the undersigned, on behalf of the IEEE 802.18 Radio Regulatory Technical Advisory Group, presented the attached material and discussed the contents thereof with the following members of the Commission's staff: Mr. Julius Knapp, Ms. Karen Rackley, Mr. Alan J. Scrime, Mr. Neil McNeil, and Ms. Kathryn Medley. The purpose of the discussion was to clear up some apparent misconceptions we observed in the Reply Comments of AMSAT and to restate some of the points made in our previously filed comments in this Proceeding.

Should you have any questions regarding this filing, please feel free to contact me.

Respectfully submitted,

/s/
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Ex Parte Comments on AMSAT Reply Comments in ET Docket No. 02-98

IEEE 802.18 RR-TAG

October 9, 2002

IEEE 802 Charter

- Develop standards for computer networks
  - Wired
  - Wireless
- One requirement for developing a new standard is regulatory compliance
  - Work with regulatory agencies worldwide
  - Work with industry developers
  - RLAN standards comply with regulations

IEEE 802.18 Clarifications

- There are apparent misconceptions in AMSAT's reply comments that we feel compelled to address
  - Usage of RLANs
  - Compliance to regulations
  - Engineering assessments

Current RLAN Deployment

- RLAN's focus on local connectivity
  - Enterprise Office -- ~95%
  - Home -- ~4%
  - Public (Hot Spots) -- ~1%
  - Point to Point Link -- <1%
- Fully compliant with Part 15

Enterprise, Home, Public

- Deployment ~99% of RLAN market
- Transmit Power -- 7 - 20dBm (5-100mW)
- Antenna Gain -- 0 - 2 dBi

Point to Point

- Deployment <1% of RLAN market
  - Extension of local Intranet connectivity (building to building bridges)
  - Transmit Power -- 15 - 30 dBm (30mW - 1W)
    - Typical installations use power well below 1W
  - Antenna Gain -- 6 - 33 dBi
    - Typical 14 - 24 dBi
    - See Annex A for power backoff and EIRP table

Engineering Assessment

- **IEEE 802.18's intent in suggesting downlink only for satellites was to minimize interference potential**
  - AMSAT uplink receiver would see aggregate RF of all users in a extremely large coverage area
  - Earth station receivers see only nearby Part 15 devices
  - Directional antennas use at earth stations will mitigate interference
- **The IEEE 802 WLAN/WPAN community has no plans or intent to request power limit changes**
  - As noted above most RLAN installations operate well below current Part 15 power limits

Sharing Studies

- Industry has proposed cooperative sharing study with ARRL
  - Deployment Scenario (Amateur and RLAN)
  - Signal characteristics analysis
  - Radiation pattern analysis
  - Harmful Interference criteria development
  - Simulate realistic probability of Interference

AMSAT's & ARRL's Comments are Inaccurate and Unrealistic

- **Collectively, they assert that the Commission "… *cannot make allocation decisions involving incumbent services based on concerns about unlicensed services without allocation status*."**
  - IEEE 802.18 disagrees
  - In the instant NPRM, the Commission recognizes the importance of Part 15 devices and the infeasibility of removing them from the subject band.
- **AMSAT and ARRL also collectively assert that to address the practical realities and societal value of Part 15 devices would constitute "*unsound spectrum management*."**
  - Again, IEEE 802.18 disagrees
  - The Commission *must* recognize the societal value of Part 15, relative to the Amateur Radio Service, in the subject band and strike a balance that is in the public interest.

Thank You

- Thank you for the opportunity to correct these misconceptions
- Questions?

Annex A, Table 1

TX Power (W)	Antenna Gain (dBi)	backoff in dB per 15.247	resulting allowable power (W)	resulting EIRP (W)
0.05	6	0.00	0.05	0.20
	7	0.33	0.05	0.21
	8	0.67	0.04	0.23
	9	1.00	0.04	0.25
	10	1.33	0.04	0.27
	11	1.67	0.03	0.29
	12	2.00	0.03	0.32
	13	2.33	0.03	0.34
	14	2.67	0.03	0.37
	15	3.00	0.03	0.40
	16	3.33	0.02	0.43
	17	3.67	0.02	0.46
	18	4.00	0.02	0.50
	19	4.33	0.02	0.54
	20	4.67	0.02	0.58
	21	5.00	0.02	0.63
	22	5.33	0.01	0.68
	23	5.67	0.01	0.73
	24	6.00	0.01	0.79
	25	6.33	0.01	0.86
	26	6.67	0.01	0.92
	27	7.00	0.01	1.00
	28	7.33	0.01	1.08
	29	7.67	0.01	1.16
	30	8.00	0.01	1.26
	31	8.33	0.01	1.36
	32	8.67	0.01	1.46
	33	9.00	0.01	1.58

Annex A, Table 2

TX Power (W)	Antenna Gain (dBi)	backoff in dB per 15.247	resulting allowable power (W)	resulting EIRP (W)
0.1	6	0.00	0.10	0.40
	7	0.33	0.09	0.43
	8	0.67	0.09	0.46
	9	1.00	0.08	0.50
	10	1.33	0.07	0.54
	11	1.67	0.07	0.58
	12	2.00	0.06	0.63
	13	2.33	0.06	0.68
	14	2.67	0.05	0.74
	15	3.00	0.05	0.79
	16	3.33	0.05	0.86
	17	3.67	0.04	0.93
	18	4.00	0.04	1.00
	19	4.33	0.04	1.08
	20	4.67	0.03	1.17
	21	5.00	0.03	1.26
	22	5.33	0.03	1.36
	23	5.67	0.03	1.47
	24	6.00	0.03	1.58
	25	6.33	0.02	1.71
	26	6.67	0.02	1.85
	27	7.00	0.02	2.00
	28	7.33	0.02	2.15
	29	7.67	0.02	2.33
	30	8.00	0.02	2.51
	31	8.33	0.01	2.71
	32	8.67	0.01	2.93
	33	9.00	0.01	3.16

Annex A, Table 3

TX Power (W)	Antenna Gain (dBi)	backoff in dB per 15.247	resulting allowable power (W)	resulting EIRP (W)
1	6	0.00	1.00	3.98
	7	0.33	0.93	4.30
	8	0.67	0.86	4.64
	9	1.00	0.79	5.01
	10	1.33	0.74	5.41
	11	1.67	0.68	5.84
	12	2.00	0.63	6.31
	13	2.33	0.58	6.81
	14	2.67	0.54	7.36
	15	3.00	0.50	7.94
	16	3.33	0.46	8.58
	17	3.67	0.43	9.26
	18	4.00	0.40	10.00
	19	4.33	0.37	10.80
	20	4.67	0.34	11.66
	21	5.00	0.32	12.59
	22	5.33	0.29	13.59
	23	5.67	0.27	14.68
	24	6.00	0.25	15.85
	25	6.33	0.23	17.11
	26	6.67	0.22	18.48
	27	7.00	0.20	19.95
	28	7.33	0.18	21.54
	29	7.67	0.17	23.26
	30	8.00	0.16	25.12
	31	8.33	0.15	27.12
	32	8.67	0.14	29.29
	33	9.00	0.13	31.62